Subjective Global Assessment [SGA] and without residual renal function). The APMt was assessed by a skinfold caliper considering the mean of three measurements. HGS was obtained using a dynamometer. Both methods and other anthropometric parameters were performed in the arm opposite to vascular access and after HD session. Patients were stratified according to gender-specific median HGS (men 24 kg; women 18 kg). APMt values were lower in the group with lower HGS when compared with the group with higher HGS (8,91 ± 4,08 and 11,22 ± 4,64, P=0,02 respectively). A significant correlation was found between AMPt and HGS (r=0,40; P < 0,001). Adjusting for sex, age and length on HD, APMt remained independently associated with HGS (β=0,59; CI= 0,07 to 1,11; P=0,03; R2=0,44). Considering functional disorders related to malnutrition appear earlier than morphological changes, the finding that APMt is able to predict muscle strength is of great relevance for the routine care of HD patients.

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ISRNM CRITERIA AS A SUPERIOR NUTRITIONAL SCORING SYSTEM ASSOCIATED WITH CARDIOVASCULAR EVENTS AND MORTALITY IN NONDIALYSIS-DEPENDENT CHRONIC KIDNEY DISEASE PATIENTS

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While protein-energy wasting (PEW) is a well-known risk factor in chronic kidney disease (CKD), its diagnosis is still controversial. We sought to compare the prevalence of PEW by three different nutritional scoring systems: 7–scale subjective global assessment (SGA), malnutrition-inflammation score (MIS), and the International Society of Renal Nutrition and Metabolism (ISRNM) criteria; and test the prognostic power of each method. This prospective study included 222 nondialysis–dependent (NDD) patients on CKD stages 2 to 5 (median age 60 [52–67] years; 63% men). MIS was graded from 0 to 30 and excluded count for dialysis vintage. SGA ≤5, MIS ≥8 and ISRNM criteria by considering 2 alterations were described as PEW. Patients were monitored for a composite outcome of cardiovascular events and mortality during 12 ± 6 months. PEW was diagnosed in 27.9% by SGA, 32.9% by MIS, 23.4% by ISRNM. Fifteen cardiovascular events and 23 deaths were registered in 30 patients. In the univariate Cox analysis, all methods predicted mortality: SGA (HR: 2.32 [1.02–5.26]), MIS (HR: 3.09 [1.31–7.34]), ISRNM (HR: 4.22 [1.85-9.62]); however, after the adjustments for age, gender, diabetes, stage of CKD, HDL cholesterol, C-reactive protein, and calcium-phosphorus product, only the ISRNM method persisted as a predictor (HR: 3.3 [1.3–8.2]). Considering the composite endpoint, only ISRNM was associated with events in both, the univariate (HR: 2.9 [1.4–5.8]) and the adjusted analysis (HR: 2.36 [1.05–5.32]). This study demonstrated that the criteria proposed by the ISRNM were the best nutritional scoring system associated with cardiovascular events and mortality in NDD chronic kidney disease patients

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EFFECTS OF A MICRNUTRIENT SUPPLEMENT (VCRESC EQ \O\AC(○,R)) ON VITAMIN AND HOMOCYSTEINE LEVELS IN END STAGE RENAL DISEASE PATIENT: 12 MONTH FOLLOW UP

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End stage renal disease (ESRD) patients may display the deficiency in vegetable-derived micronutrient, such as vitamins and minerals, due to the potassium-restricted diet. VCRESC, a drink type micronutrient supplement containing enough amounts of daily-required vitamins, is prescribed for patients with micronutrient deficiency in Japan.
Case: 58 years old woman under the chronic hemodialysis with non-diabetic ESRD. Before the initiation of VCRESC, her blood vitamins and Hcy levels were measured. She was introduced 125 ml/day of VCRESC oral intake over 12 months period. After first two weeks of VCRESC initiation, she was temporary advised to stop VCRESC for two weeks. Subsequently she was re-initiated VCRESC supplement until the end of the study. Her blood micronutrient levels were monitored at 2 and 4 weeks, 3 and 12 months after the initiation of study.
Results: Some of her baseline blood vitamins (B6, B12, C) level exhibited lower when compared to Japanese standard value. After 2 weeks initiation of VCRESC, her vitamins (A, B1 B2, B6, B12, C and folate) levels elevated remarkably. After temporal termination of the VCRESC for 2 weeks, her vitamin B1, B2, C, E levels were suppressed, though vitamin A and B6 levels were not altered when compared to the levels observed at 2 weeks after the initiation of the study. At either 3 or 12 months after the initiation of study, vitamin B groups, *E, C* and folate was higher when compared to standard value; vitamin A levels remained in high standard range. Her Hcy level was higher than normal value in the beginning of study and reduced for 29% at the end of the study.
Conclusion: Hcy level in dialysis patients has been shown to be an independent risk factor for vascular complications. VCRESC could be the potential nutritional intervention in the ESRD patient under chronic hemodialysis for the prevention of vascular complications.

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COMPARISON OF BIOIMPEDANCE ANALYSIS AND DUAL-ENERGY X-RAY ABSORPTIOMETRY IN PERITONEAL DIAYSIS PATIENTS ACCORDING TO EDEMA

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The change in difference between bioimpedance analysis (BIA) and dual-energy X-ray absorptiometry (DEXA) according to edema is an important issue for peritoneal dialysis (PD) patients. We reviewed all adults who received PD. Patients had undergone two body composition measurements. 1108 cases were measured simultaneously by BIA and DEXA. Measurements were divided into four quartiles based on edema index. There were significant correlations and intraclass correlations between the two methods for lean mass (LM), fat mass (FM) and bone mineral content. On a simple linear regression analysis, non-standardized-βs of total LM decreased as the grade of edema index increased (from 1.008 to 0.949). Those of total FM were increased as the grade of edema index increased (from 1.034 to 1.162). Bias for total LM changed to negative and negative bias increased as the grade of edema index increased (from 0.406 kg to –2.276 kg). There was a positive bias for total FM in first quartile and increased as the grade of edema index increased (from 0.594 kg to 2.863 kg). In conclusion, the present study demonstrates that BIA can measure normal hydrated LM in CAPD patients with edema. However, FM is overestimated in PD patients with edema. The difference between the two measurements increases as the grade of edema increases.

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LIMB/TRUNK LEAN MASS RATIO AS A RISK FACTOR FOR MORTALITY IN PERITONEAL DIALYSIS PATIENTS

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Protein energy wasting (PEW) is a common problem in dialysis patients. There have been few reports on the effects of regional lean mass distribution for peritoneal dialysis (PD) patients. We reviewed the medical records and identified all adults who received PD between May 2001 and May 2011. Five hundred thirty four patients were enrolled. The clinical and laboratory data were collected at 1 and 12 months. Regional lean masses were measured by dual-energy X-ray absorptiometry. The limb/trunk lean mass ratio (LTLM) was defined as a value on dividing the sum of four limbs by the trunk lean mass. The mean age at the start of PD was 53.2 ± 14.1 years. Diabetes mellitus (DM) was most common underlying disease of end-stage renal disease (49.6%). In males, the low LTLM tertile was associated with low body mass index, creatinine, arm muscle circumference, and high C-reactive protein. In females, the low LTLM tertile was associated with low creatinine and normalized protein equivalent of nitrogen appearance. On both univariate and multivariate analysis adjusted for age, Davies risk index, and residual renal function, initial low LTLM tertile and maintenance of low LTLM were associated with mortality in PD patients. Distribution or